

Applicants respectfully acknowledge that the Office has indicated that claims 39 and 43-46 would be allowable if rewritten in independent form including all the limitations of the base and intervening claims.

II. Rejection Under § 112, Second Paragraph

The Office reiterated its rejection of claims 34, 43, and 45 as indefinite under 35 U.S.C. § 112, second paragraph; however, the Office appears to have only maintained the rejection of claim 43.¹ Office Action at 2, 8. Applicants traverse this rejection for at least the reasons of record and the following additional reasons.

The M.P.E.P. states that “[w]here a claim is refused for any reason relating to the merits thereof[,] it should be rejected and the ground of rejection fully and clearly stated. . . . [I]f rejected as indefinite[,] the examiner should point out wherein the indefiniteness resides.” M.P.E.P § 707.07(d) (8th ed. 2001) (emphasis added). Yet the Office’s argument in response to Applicants’ Reply dated August 5, 2002, merely notes that claim 43 recites “substantially pyramidal central body” without providing a basis for indefiniteness. Office Action at 8.

Applicants respectfully traverse the rejection of claim 43 because mere recitation of the term “substantially” does not render the present claim indefinite. M.P.E.P. § 2173.05(b). The question is whether one of ordinary skill in the art would understand the scope of the claims in view of the specification. *Verve, LLC, v. Crane Cams, Inc.*, 65 U.S.P.Q.2d 1051, 1053-54 (Fed. Cir. 2002). Indeed,

¹ If Applicants are in error, Applicants submit that the claims are definite for reasons previously provided. See Reply to Office Action, August 5, 2002, at 2-3.

"substantially" commonly appears in patent claims, and the law does not mandate a finding of indefiniteness based on the mere presence of the word "substantially." *Id.*

Similarly, Applicants submit that the recitation of the term "pyramidal central body" does not render claim 43 indefinite. The Federal Circuit has specifically rejected the Office's suggestion that a lack of description in the specification is a basis for an indefiniteness rejection. For example, the Court held that "although the term 'substantially completely wetted' is not defined in the text of the written description," a person of ordinary skill in the art would understand the term. *LNP Eng'g Plastics, Inc., v. Miller Waste Mills, Inc.*, 61 U.S.P.Q.2d 1193, 1202 (Fed. Cir. 2001) (emphasis added). Thus, a term not explicitly defined in the written description is not *ipso facto* indefinite. *Cf. Tex. Digital Sys., Inc., v. Telegenix, Inc.*, 64 U.S.P.Q.2d 1812, 1818-20 (Fed. Cir. 2002) (explaining that contemporaneous technical references may be used to understand the plain meaning of claim terms). Applicants submit that one of ordinary skill in the art would comprehend the full scope of the claim in view of the specification, despite the lack of an explicit definition for "substantially" or "pyramidal central body." Applicants' disclosure describes the position, function, and shape of a "substantially pyramidal central body". See specification at 10-12, 19-21, 24, 28-30, and the Figures. Nothing more is legally needed.

Applicants, therefore, request withdrawal of the Office's rejection of claim 43.

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III. Rejection Under § 103 Over Tate in View of Hiorth

The Office has rejected claims 34, 36-38, 40-42, 47, and 48 under 35 U.S.C. § 103(a) as unpatentable over *Tate* (U.S. Patent No. 4,035,322) in view of *Hiorth* (U.S. Patent No. 4,191,480) for the reasons disclosed at pages 2-5 of the Office Action. Applicants respectfully traverse the rejection for at least the reasons set forth below. Specifically, (1) *Hiorth* is not analogous art, and (2) the Office has yet to set forth a prima facie case of obviousness.

First, Applicants note that the Office has failed to address Applicants' previous argument that *Hiorth* is not analogous art with respect to Applicants' claims and, therefore, may not be considered in either a Section 102 or 103 rejection. Indeed, the field of endeavor is not the same, and the reference is not reasonably pertinent to the particular problem solved. See, e.g., *In re Clay*, 23 U.S.P.Q.2d 1058, 1060 (Fed. Cir. 1992). Specifically, while the field of endeavor of the present invention relates to a method for continuously introducing a substance in a liquid phase into plastic **granules**, *Hiorth* relates to mixing one or more **powders** with one or more liquids to achieve a homogeneous mixture, such as an explosive. Abstract and col. 2, lines 1-2. The present invention relates to a method for introducing in continuous a substance in liquid phase into plastics granules and addresses the problem of, *inter alia*, avoiding the generation of plastics dust. The undesired crumbling of the granules and the subsequent formation of dust can in turn be reduced by limiting the abrasive action and the mechanical friction caused by the collisions of the granules with each other and/or of the granules against the walls of

the apparatuses in which they are treated. As clearly stated in the paragraph bridging pages 5 and 6 of the specification, "the plastics granules may be coated with the substance in liquid phase and subsequently submitted to mixing without additional energy being supplied by moving mechanical means which are dynamically acting on the mass of granules, so as to reduce to a minimum the abrasive action on the granules and avoid in a substantially complete manner the noxious generation of plastics dust."

In sharp contrast, *Hiorth* relates to the mixing of powders with a liquid. Powders have a completely different nature as compared to granules and give rise to different problems as compared to the problem addressed by the present invention, namely the problems of avoiding the plugging of the mixers or lump formation (*Hiorth* at col. 1, lines 33-64) and of avoiding the tendency of agglomeration typical of fine (30 μm or less) powders (U.S. Patent No. 5,230,735 to *Murata* at col. 1, lines 38-59) but not typical of granules. In other words, due to the different nature and to the related problems thereof, the terms "powders" and "granules" should not be considered interchangeable. Thus, the field of endeavor of the Applicants' claims is not the same field of endeavor as *Hiorth*.

Moreover, *Hiorth* is not reasonably pertinent to the particular problem solved by Applicants' claims. *Hiorth* merely relates to powdered materials and addresses the problems of producing a homogeneous mixture from the powder and plugging of the apparatus when the mixture attains a sticky consistency. Col. 1, lines 7-8 and 33-59; col. 2, lines 19-21 and 63-66; col. 5, lines 27-31; col. 7, lines 9-12. This clear

distinction in function dictates rejection of *Hiorth* as prior art. See M.P.E.P.

§ 2141.01(a).

Second, Applicants' invention is not obvious over *Tate* in view of *Hiorth*. To establish a *prima facie* case of obviousness, the Office must show that three basic criteria have been met. The M.P.E.P. explains:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

M.P.E.P. § 2142 (emphasis added).

Applicants submit that the Office has not shown that the primary reference teaches all the limitations of claim 34. Nor can the Office show that there would have been a suggestion or motivation in the references or in the knowledge generally available to one of ordinary skill in the art to modify and/or combine the references in order to recreate Applicants' claimed invention. See M.P.E.P. § 2143.01. Even if the Office can show that this requirement has been met, the cited references certainly do not provide one with a reasonable expectation of success to obtain the claimed invention from the piecemeal teachings disclosed therein. See M.P.E.P. § 2143.02.

The primary reference, *Tate*, does not teach or suggest all of the claim limitations. Notably, *Tate* never teaches that the spraying is carried out onto the plastics granules continuously flowing within a spraying chamber (step b of the

claimed method), that the coated granules are passed in liquid phase in at least one mixing chamber provided downstream of the spraying chamber (step c), and that the mixed granules are submitted to drying for a time sufficient to allow a substantially complete absorption of the substance in liquid phase by the granules (step d) to avoid the generation of plastic dusts. On the contrary, *Tate* teaches to spray the liquid through the pellet mass while the mass is being violently agitated. Col. 3, lines 22-26. The Office alleges *Hiorth* teaches the missing limitations. Office Action at 3.

However, any modification of the method taught by *Tate* by using the static spraying device taught by *Hiorth*, i.e., a mixing device where the pellets are simultaneously sprayed (*Hiorth* at Fig. 2 and col. 4, lines 13-35), would render the method for preparing curable pellets disclosed by *Tate* inoperable for its intended purpose. See M.P.E.P. § 2143.01 In fact, *Tate* clearly explains that the agitation promoted by the turbulent air causes a combination of friction and collision which avoids the adhesion of the pellets to each other and softens the pellets, resulting in a penetration of the curing agent in the pellets. *Tate* at col. 3, lines 36-52. Modifying *Tate* would have never meet the claimed method. *In re Gordon*, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984).

Assuming, *arguendo*, that the combination of *Tate* and *Hiorth* discloses all of the claimed steps (and Applicants do not agree that it does), the Office has yet to provide the prerequisite evidence of a motivation to combine the disclosures to obtain the claimed invention. *In re Zurko*, 59 U.S.P.Q.2d 1693, 1697 (Fed. Cir. 2001) ("With respect to core factual findings in a determination of patentability, however, the Board cannot simply reach conclusions based on its own

understanding or expertise . . . Rather, the Board must point to some concrete evidence in the record in support of these findings.”).

The Federal Circuit has noted that the Office’s burden to establish a *prima facie* case of obviousness may be satisfied by one of only three sources. First and most importantly, an objective teaching to combine the references may be found in the prior art. Second, the nature of the problem may provide the suggestion to combine the references. And third, general knowledge of one of ordinary skill in the art may supply the motivation to the combine the prior art references. *In re Dembiczak*, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999).

Here, the Office has asserted that “[i]t would have been obvious to one of ordinary skill in the art at the time the invention was made to coat the polymer particles with the curing agent using the static spraying device taught by Hiorth prior to sending the coated particles to a mixing chamber to allow the curing agent to penetrate the particles as taught by Tate et al. in view of the teachings Hiorth that the static spraying device prevents the coated particles from agglomerating prior to mixing and drying processes.” Office Action at 3-4.

While the Office has provided this opinion, it has not offered any factual support as to why agglomeration is a motivation to combine the references. In *Zurko*, the Federal Circuit specifically rejected the Office’s reliance on “basic knowledge” and “common sense” to support an obviousness determination when the “assessment of basic knowledge and common sense was not based on any evidence in the record and, therefore, lacks substantial evidential support.” 59

U.S.P.Q.2d at 1697. The above opinion is not the "clear and particular" evidence the law requires. *In re Dembiczak*, 50 U.S.P.Q.2d at 1617.

Applicants note that the fact that references could be modified or combined is not a motivation to do so. M.P.E.P. § 2143.01; *In re Gordon*, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984). "When determining the patentability of a claimed invention which combines two known elements, 'the question is whether there is something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination.'" *In re Beattie*, 24 U.S.P.Q.2d 1040, 1042 (Fed. Cir. 1992) (emphasis added). Here, neither *Tate* nor *Hiorth* provide one skilled in the art with a reason to make the claimed combination.

As Applicants explained above, *Hiorth* relates to powdered materials and addresses the problems of producing a homogeneous mixture from the powder and plugging of the apparatus when the mixture attains a sticky consistency. Col. 1, lines 7-8 and 33-59; col. 2, lines 19-21 and 63-66; col. 5, lines 27-31; col. 7, lines 9-12. Agglomeration is an issue for powders (*Murata* at col. 1., lines 38-59) not plastic pellets. Hence, *Hiorth* is not analogous art with respect to *Tate*, and thus there can be no motivation for one skilled in the art to combine the powder teachings of *Hiorth* with the pellets of *Tate*.

Further the Office's agglomeration argument does not hold water. As noted above, the reduction of the tendency to agglomerate, a property relevant only to powders, implies that the material to be mixed and/or coated is maintained in a powder state, which brings forth the unavoidable presence of dusts, thus teaching away from the present invention. See M.P.E.P. § 2145 D. As explained in the

specification on pages 3-4, the presence of dust "cannot be tolerated in the subsequent working steps since it preferentially absorbs the liquid (cross-linking agent) because of the high surface area/volume ratio that dusts and finely subdivided materials have, and involves the double risk of a non homogeneous cross-linking of the final layer (with prejudice of its characteristics of isotropy and constitutional homogeneity) and of a premature cross-linking in the extrusion apparatus." There is simply no evidence in the art cited here by the Office that agglomeration is a concern prior to mixing and drying with respect to plastic granules/pellets, as opposed to powders and suspension materials. See, e.g., *Tate* at col. 3, lines 22-49.

Additionally, Applicants note that *Tate* has the objective of avoiding the contamination of pellets during their preparation but never mentions the objective of avoiding the generation of plastics dust. In fact, *Tate* teaches that the mass of pellets is mixed with the liquid by violent agitation performed by turbulent air flow. Col. 3, lines 22-52. *Tate* defines "turbulent air" as "air having a velocity such that the surfaces of the pellets are made soft by a combination of friction and collision of the pellets with each other and the container walls and such that the pellets do not adhere to each other." Col. 3, lines 36-40. *Tate's* teaching of inducing friction and collision of the pellets teaches completely away from minimization of the abrasive action as noted in the present specification at pages 5-6. Thus, minimizing abrasive action is clearly incompatible with the friction and collision of the pellets with each other performed by the method disclosed by *Tate*.

Furthermore, *Tate* notably discloses no disadvantages of the system comprising steps of violent agitation and mixing by turbulent air, which actually teaches away from Applicants' claims. Similarly, *Hiorth* does not teach any deficiencies in its coating and mixing. While *Hiorth* may suggest adding mixers in series (col. 6, line 68 - col. 7, line 7), it does not suggest adding wholly distinct process steps to obtain a process directed to a different subject matter. Therefore, a person of ordinary skill in the art would not have been motivated to modify either *Tate* or *Hiorth* to arrive at Applicants' claims.

Finally, even if there were a motivation to combine *Hiorth* and *Tate*, there would not be a reasonable expectation of success in doing so. M.P.E.P. § 2143.02; *Micro Chem., Inc., v. Great Plains Chem. Co.*, 41 U.S.P.Q.2d 1238, 1245 (Fed. Cir. 1997). In this case, there is no evidence justifying a reasonable expectation of success in modifying the disclosures of *Tate*, which requires turbulent air, and *Hiorth*, which minimizes agglomeration, to obtain Applicants' pending claims. This is true, even though obviousness "does not require absolute predictability of success." *In re O'Farrell*, 7 U.S.P.Q.2d 1673, 1681 (Fed. Cir. 1988). Here, the elimination of turbulent mixing would have rendered *Tate* inoperable. Accordingly, there would be no reasonable expectation of success to eliminate the turbulent mixing to achieve the substantially static nature, recited in the claims.

For the above reasons, Applicants submit that *Tate* in view of *Hiorth* do not establish a *prima facie* case of obviousness for a method of introducing in continuous a substance in liquid phase into plastic granules, as claimed. Accordingly, Applicants respectfully submit that this rejection should be withdrawn.

IV. Rejection Under § 103 Over Tate in View of Hiorth and Murata

The Office has rejected claim 35 under 35 U.S.C. §103(a) as unpatentable over *Tate* in view of *Hiorth* and further in view of *Murata* (U.S. Patent No. 5,230,735) for the reasons disclosed at page 5 of the Office Action. Applicants respectfully traverse the rejection for at least the reasons set forth below.

Applicants' invention is not obvious over *Tate* in view of *Hiorth* further in view of *Murata*. As set forth above and incorporated herein in full, the Office has failed to meet its burden to establish a motivation to combine references and a reasonable expectation of success. And like *Hiorth*, *Murata* is not analogous art with respect to the claims or to *Tate*. *Murata* at col. 1, lines 10-14 ("The present invention relates to a method of and an apparatus for coating the surfaces of powder particles with a liquid, for example, for coating corn starch powder particles with an aqueous solution of vitamin or the like.") (emphasis added). There is simply no motivation to combine processes associated with powders with processes associated with plastic granules/pellets.

Furthermore, it is well understood that the fact that references could be modified or combined is not a motivation to do so. M.P.E.P. § 2143.01. Something must suggest the desirability, and thus the obviousness, of making the combination. *In re Beattie*, 24 U.S.P.Q.2d at 1042. Even assuming, *arguendo*, that the Office can show a motivation to add the spraying device of *Hiorth* to the mixing device of *Tate*, there is no factual basis for the motivation to combine the drying device of *Murata* to the device of *Tate*.

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The Examiner has asserted that the motivation is "to ensure the coating material coat[s] and impregnates the particles before it is then dried to prevent agglomeration." However, *Tate* already teaches that the use of turbulent air in its agitation and aging chamber results in the pellets not adhering to each other and the penetration and diffusion of the liquid into the particle. *Tate* at col. 3, lines 26-49. Since *Tate* already meets the alleged advantages of *Murata*, there is no motivation to combine the references.

For the above reasons, Applicants submit that *Tate* in view of *Hiorth* further in view of *Murata* do not establish a *prima facie* case of obviousness for a method of introducing in continuous a substance in liquid phase into plastic granules, as claimed. Accordingly, Applicants respectfully submit that this rejection should be withdrawn.

V. Conclusion

In view of the foregoing remarks, Applicants respectfully request the reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to Deposit Account No. 06-0916.

Respectfully submitted,

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